Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 6. This sheet, which includes Fig. 6, replaces the original sheet including Figs. 6. The amended Fig. 6 includes changes so that the flow diagram is consistent with independent method claim 1, as described in more detail below.

Attachment: Replacement Sheet

REMARKS/ARGUMENTS

The Office Action mailed July 5, 2005 has been reviewed and carefully considered. Claims 1-15 have been amended. Claims 1-15 are pending in this application, with claims 1, 7, and 15 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

Drawing Objections

In the Office Action mailed July 5, 2005, the drawings are objected to as not showing the claimed means of claim 7, the base transceiver station of the internal network controller of claim 8, or the step of setting up a communication as recited in claim 1. Claim 7 has been amended such that only means of the network controller, i.e., radio access gateway 3, are recited. The recited means are described as part of the network controller at page 13, line 31 to page 14, line 1; and page 17, lines 19-27. Claim 8 is rewritten so that the base transceiver is part of the internal cellular network recited in independent claim 15. Support for the base transceiver is found in Fig. 1A; and page 12, lines 1-3. Finally, Fig. 6 is amended to show the step of setting up a communication as recited in claim 1.

§112, first paragraph (Written Description)

Claims 1-14 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner alleges that the specification fails to support the means recited in claim 7, the base station receiver as part of an cellular network controller recited in claim 8, and the step of setting a communication channel.

Independent claim 7 is amended and now recites means which are disclosed as being accomplished by the GSM Radio Access Gateway 3. Page 12, lines 24-27 of the present specification discloses that the GSM Radio Access Gateway 3 performs similar functions to that of a base station controller in a conventional GSM network. A conventional base station controller knows the cell in which a mobile station is located. Page 17, lines 15-17 of the specification further discloses how the movement of the mobile station is determined. Therefore, the GSM Radio Access Gateway 3 determines when a mobile station enters a border cell. Furthermore, page 17, lines 19-27 clearly disclose that the GSM Radio Access Gateway 3 predicts when a handover to an external network is likely using the prediction algorithm and send off a hand-off advance request.

Regarding claim 8, this claim is amended to state that it is part of the network and not part of the network controller. The base transceiver of the network is shown in Fig. 1A.

The specification is further amended to clearly provide written description of the step of setting up.

In view of the above amendments and remarks, it is respectfully submitted that the rejection of claims 1-14 as failing to meet the written description requirement, now be withdrawn.

§112, first paragraph (Non-Enabling Disclosure)

Claims 7-9 stand rejected under 35 U.S.C. §112, first paragraph, as failing to provide an enabling disclosure.

Regarding the limitation of detecting movement of the mobile station, page 12, lines 24-27 of the present specification discloses that the GSM Radio Access Gateway 3 performs similar functions to that of a base station controller in a conventional GSM network. A conventional base station controller knows the cell in which a mobile station is located. Page 17, lines 15-17 of the

specification further discloses how the movement of the mobile station is determined. Accordingly, the detection of the movement of the mobile station is enabled by the present specification.

Regarding the means for predicting and the means for issuing a hand-off advance request, the prediction algorithm is defined on page 18, lines 1-12. Accordingly, the means is implemented using an algorithm. Since wireless communication network equipment is typically implemented using processor technology (see, e.g., U.S. Patent No. 4,829,554 (Barnes), col. 32, lines 56-60), it is respectfully submitted that given the information disclosed in the specification, a person skilled in the art would be able to implement the algorithm in a controller.

Regarding the means for setting up a communication channel, this is described at page 20, line 35 to page 21, line 4. It is respectfully submitted that this description enables on skilled in the art to make and use the means for setting up.

The base transceiver recited in claim 8 is now recited as part of a network, as shown in Fig. 1A.

In view of the above amendments and remarks, the rejection of claims 7-9 under 35 U.S.C. §112, first paragraph, should be withdrawn.

Rejections over Prior Art

Claims 1-15 stand rejected under 35 U.S.C. §103 as unpatentable over U.S. Patent No. 6,519,235 (Kim) in view of U.S. Patent No. 6,507,567 (Willars) and U.S. Patent No. 4,829,554 (Barnes).

Independent claim 1 has been amended to recite "when said mobile station is in the border cell and before a hand-off requirement is determined, predicting using a prediction algorithm that an actual handoff is likely to be required using a set of predetermined parameters

associated with said mobile station", "generating an advance hand-off request when the prediction algorithm predicts that the actual hand-off is likely to be required", and "setting up a communication channel in the external network in response to said advance hand-off request before a hand-off requirement for said mobile station is determined, said communication channel being ready for use by said mobile station when an actual hand-off is made". Support for these limitations is found at page 17, lines 19-27; and page 19, lines 7-11. Accordingly, the presently claimed invention clarifies that the step of predicting is separate from and performed before a determination of when an actual handoff is required.

Kim discloses a mobile radio communication packet data network and a method of providing such a network. Kim also discloses a handoff from one radio network controller to another. However, Kim discloses only an actual handoff and does not disclose, teach, or suggest "when said mobile station is in the border cell and before a hand-off requirement is determined, predicting, using a prediction algorithm, that an actual handoff is likely to be required using a set of predetermined parameters associated with said mobile station".

Kim further fails to teach or suggest "setting up a communication channel in the external network in response to said advance hand-off request before a hand-off requirement for said mobile station is determined, said communication channel being ready for use by said mobile station when an actual hand-off is made". In contrast, Kim merely discloses setting up the communication channel when the handover is actually required.

The Examiner refers to col. 3, lines 13-31 as disclosing the advanced hand-off request generated in response to the prediction algorithm. However, this section of Kim refers to the actual handoff and not to a prediction of a likely handoff before the actual handoff is required, as expressly recited in independent claim 1.

Willars fails to teach or suggest what Kim lacks. Willars relates to efficient handling of connection in a mobile communication network. Willars discloses that a communication system may have common channels and dedicated channels (see e.g., col. 8, lines 10-14). Similarly to Kim, Willars relates to handoffs between RNCs of one communication system and does not teach or suggest a prediction of a likely handoff before the actual handoff is required, as expressly recited in independent claim 1.

The Examiner further submits Barnes as evidence that border cells between two cellular communication systems and setting up a communication channel in the external network when a handoff is requested is known in the art. Applicant agrees. This is similar to the prior art described on pages 1-7 of the specification (see particularly page 7, lines 14-32). As stated above amended independent claim 1 now clearly recites that the step of predicting is performed before an actual requirement for a handover and predicts when a handover is likely to be required.

In view of the above amendments and remarks, independent claim 1 is allowable over Kim in view of Willars and Barnes.

Independent claims 7 and 15 recite "means for predicting, using a prediction algorithm, that an actual handoff is likely to be required using a set of predetermined parameters associated with said mobile station when said mobile station is in the border cell and before the actual handoff is required", and "means for selectively issuing a hand-off advance request when the means for detecting detects said mobile station in the border cell and said means for predicting predicts that a hand-off is likely to be required in accordance with the prediction algorithm".

As stated above, each of the Kim, Willars, and Barnes references teach actions to be taken when a hand-off is actually required. The references do not teach or suggest predicting when a hand-off is likely before the actual hand-off is required. Accordingly, independent claims 7 and 15 are also allowable over Kim in view of Willars and Barnes.

Independent claim 15 further recites "means for setting up a communication channel in the external communications network in response to said advance hand-off request and before the actual hand-off is required for said mobile station such that said communication channel is ready for use by said mobile station when an actual hand-off request is made". As stated above, the references of record fail to disclose, teach or suggest setting up a communication channel before the actual hand-off is required, as now expressly recited in independent claim 15. Accordingly, claim 15 is also allowable for these additional reasons.

Dependent claims 2-6 and 8-14, each being dependent on one of independent claims 1, 7, and 15, are allowable for the same reasons described above with respect to independent claims 1, 7, and 15, as well as for the additional recitations therein.

For all of the above reasons, the application is now deemed to be in condition for allowance and notice to that effect is earnestly solicited.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By _____

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